

Economic impact of the Covid-19 pandemic on Ukraine

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1. Introduction

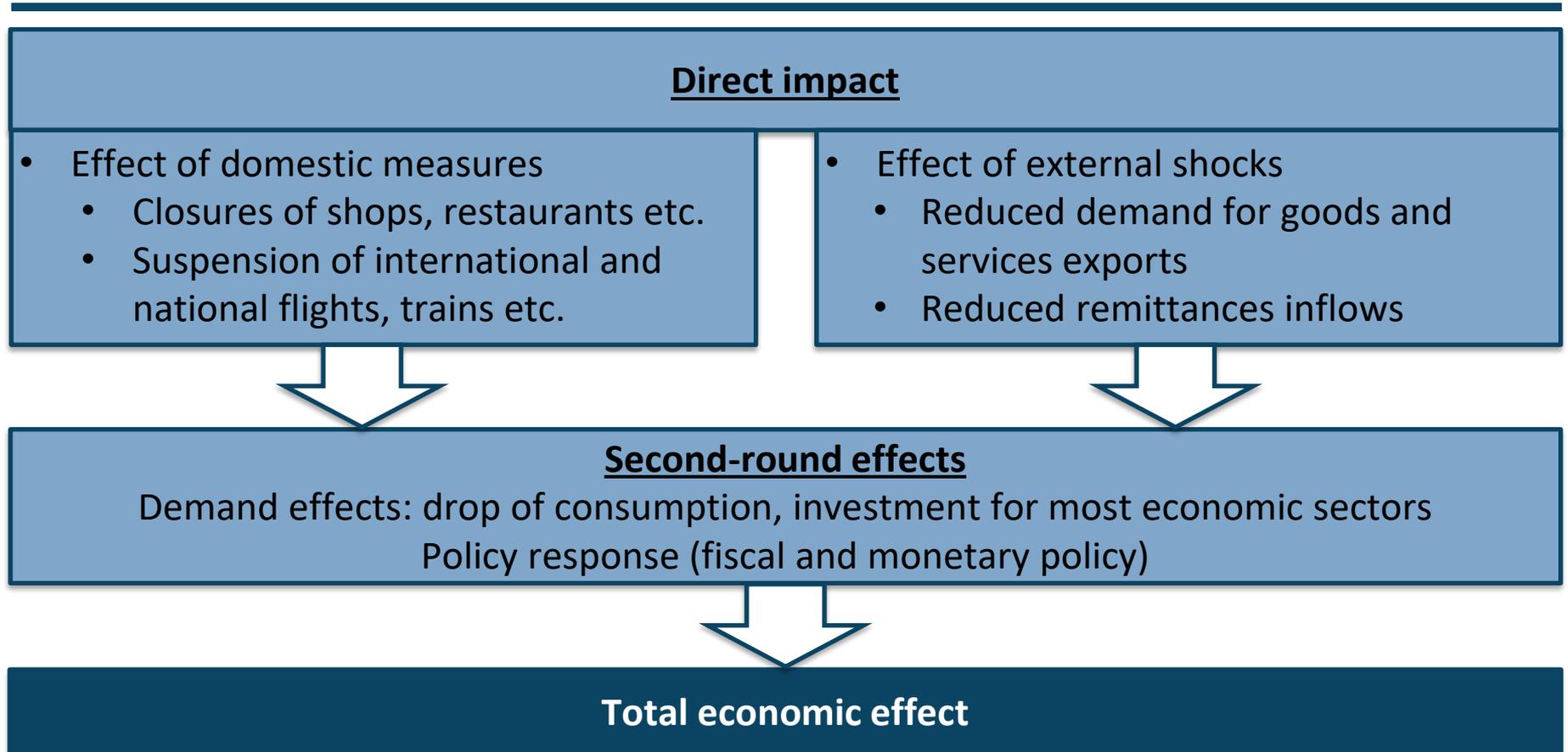
Background:

- WHO declared Covid-19 a global pandemic on March 11
- In Ukraine, somewhat delayed spread of the virus
- However, strict domestic lockdown measures introduced as of March 16/17
- Globally: large impact on economies of all countries expected
- Economic impact of Covid-19 on Ukraine will come from domestic measures and external shocks through global markets

Purposes of this Policy Briefing

- Quantification of direct economic impact on Ukraine via different channels
 - Impact of domestic measures
 - Impact of external shocks
- Model-based assessment of total macroeconomic effect

2. Transmission chain of economic effect



2-stage approach

1. Define scenarios to quantify direct impact
2. Feed direct impact into forecasting model to get total economic effect

3. Scenario Assumptions

1. Optimistic

- Quick relaxation of domestic measures/ shutdown restrictions on sectors, based on currently announced dates where available
- Demand for exports by trade partners: based on IMF WEO GDP projections, with Covid-19 impact (difference between Oct19 and Apr20 forecasts for 2020) improved by 30%

2. Baseline

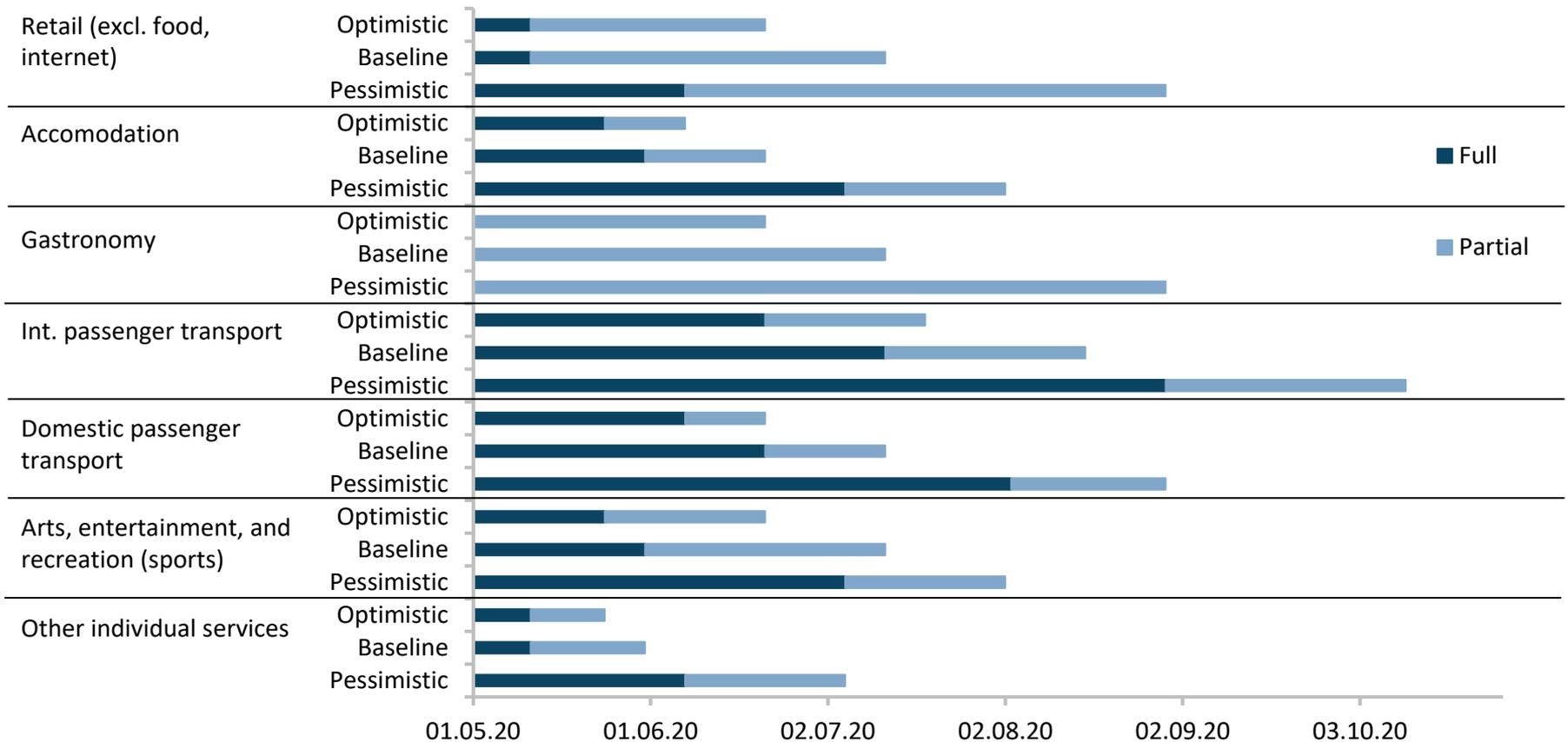
- Domestic measures extended moderately beyond currently announced dates
- Demand for exports by trade partners: current IMF WEO GDP projections

3. Pessimistic

- Significantly extended domestic measures
- Demand for exports by trade partners: current IMF WEO GDP projections with Covid-19 impact (difference between Oct19 and Apr20 forecasts for 2020) worsened by 30%

Assumptions on domestic measures

Duration of domestic measures: Full and partial sector shutdown



- Measures commenced on March 16, different scenario assumptions on duration
- For most sectors, a “full” shutdown, in which a sector’s activity is zero, will be followed by a “partial” shutdown, for which we assume 50% activity of the sector
- Exception: in gastronomy, take-out/delivery was permitted and strongly used throughout

Assumptions on external shocks (I)

GDP of trade partners

- Baseline: IMF WEO, April
- Optimistic scenario: baseline growth plus 30% of difference between current and last (Oct19) IMF forecast for 2020
- Pessimistic: baseline growth minus 30% of difference

Exchange rate

- Baseline: IER forecast for Ukraine, Apr20
- Optimistic/pessimistic scenarios: IER expert estimate consistent with other external and internal assumptions

2020 GDP growth of trade partners

	Optimistic	Baseline	Pessimistic
USA	-3.5	-5.9	-8.3
EU	-4.5	-7.1	-9.7
China	2.6	1.2	-0.2
Russia	-3.3	-5.5	-7.7
Egypt	3.1	2.0	0.8
Belarus	-4.1	-6.0	-7.9
Turkey	-2.6	-5.0	-7.4
India	3.4	1.9	0.3
ROW	-1.5	-3.4	-5.2

Source: IMF World Economic Outlook, own calculations

2020 average exchange rate

	Optimistic	Baseline	Pessimistic
UAH/USD	27.0	28.7	32.0

Source: IER, own calculations

Assumptions on external shocks (II)

Commodity prices

- Baseline: IMF WEO, Apr20, own assumptions
- Optimistic/pessimistic: +/- 30% of difference with previous forecast

Remittances

- World Bank forecast on remittances growth in eastern Europe +/- 30%
- This growth rate is applied to remittances as % of GDP

2019/2020 percentage changes in key commodity prices

	Optimistic	Baseline	Pessimistic
Steel	-9.1	-10.0	-10.9
Wheat	12.5	8.8	5.0
Maize	-2.6	-4.5	-6.4
Barley	-0.9	-4.9	-8.8
Sunflower-seed oil	-0.4	-2.1	-3.7
Soya beans	1.2	-0.7	-2.7
Iron ore	-7.9	-11.8	-15.7
Crude oil	-31.3	-42.0	-52.7
Petroleum products	-15.6	-21.0	-26.4
Natural gas	-15.6	-33.0	-50.4

Source: IMF World Economic Outlook, own calculations

Impact of Covid-19 crisis on 2020 remittance inflows

	Optimistic	Baseline	Pessimistic
Inflows	-20%	-28%	-36%

Source: World bank, own calculations

4. Direct impact of domestic measures

Effect of domestic on GVA of affected sectors, UAH bn

Sector	Optimistic	Baseline	Pessimistic
Retail (excl. food, internet)	-24.8	-28.2	-40.6
Gastronomy and hotels	-6.6	-7.8	-11.1
International transport	-6.5	-8.0	-11.0
Domestic passenger transport	-4.0	-4.8	-6.8
Arts, entertainment and recreation (sports)	-6.4	-7.4	-10.6
Other individual services	-7.4	-7.8	-11.5
Total	-55.7	-63.9	-91.6
% of annual GVA	-1.4%	-1.6%	-2.3%

Source: Own calculations

- “Shutdown” of domestic sectors causes gross value added by domestic sectors to decline between -1.4% and -2.3%
- Not a total effect on GDP: impact on supply chain sectors in Ukraine not included

Direct impact of external shocks

Reductions in goods exports, UAH bn

Sector	Optimistic	Baseline	Pessimistic
Agriculture	7.7	-3.8	-15.2
Extractive industry	-10.8	-13.6	-16.2
Food industry	1.5	-3.6	-8.6
Chemical industry	-0.7	-1.3	-2.0
Metallurgy	-30.0	-38.1	-46.0
Machine building	-2.0	-3.6	-5.2
Other sectors	-6.1	-9.7	-13.2
Total effect	-40.4	-73.7	-106.4
% of GDP	-0.9%	-1.7%	-2.4%

Source: Own calculations

- Calculation uses assumptions on:
 - Drop in GDP of trade partners
 - Commodity prices
 - UAH exchange rate
- Total reduction of goods trade between UAH -40 bn and UAH -106 bn, -0.9% and 2.4% of GDP assumed

Direct impact of external shocks

Reductions in services exports, UAH bn

Services types	Optimistic	Baseline	Pessimistic
Passenger transport	-12.7	-14.2	-16.2
Freight transport	-5.0	-8.2	-12.7
Other transport	-8.6	-10.9	-14.0
Travels	-25.8	-27.6	-30.3
Computer services	-20.2	-23.6	-27.0
Technical, trade-related, and other business services	-10.9	-13.7	-17.7
Other services	-14.9	-19.0	-24.7
Total effect	-98.1	-117.2	-142.6
% of GDP	-2.2%	-2.6%	-3.2%

Source: Own calculations

- Calculation based on drop in goods exports affecting related services, closures of int. passenger transport, and reduced demand for exports e.g. IT services due to reduction of GDP of trade partners
- Total reduction of services trade between UAH -98 bn and UAH -143 bn, -2.2% and -3.2% of GDP assumed

Direct impact of external shocks

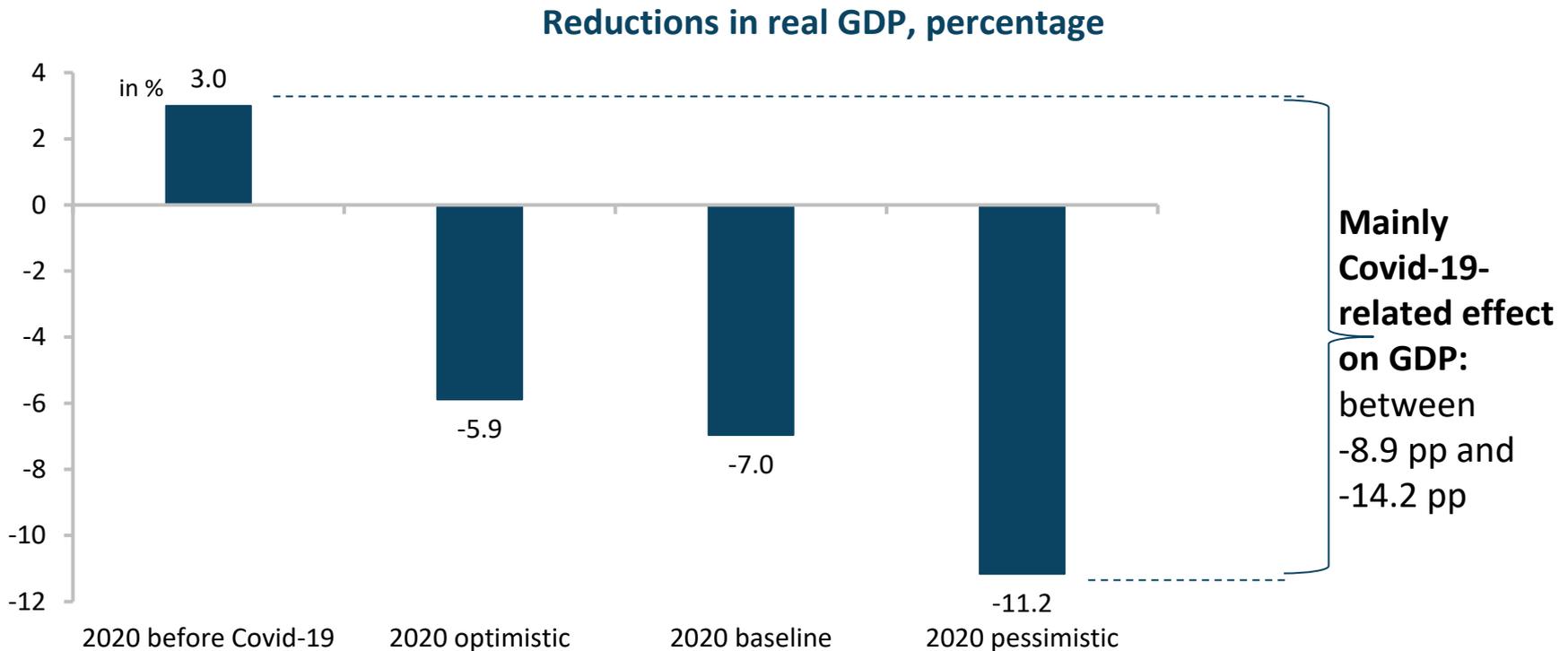
Reductions in remittances, UAH bn

	Optimistic	Baseline	Pessimistic
UAH bn	-64.4	-92.0	-119.5
% of GDP	-1.6%	-2.3%	-3.0%

Source: Own calculations

- Remittances are an important source of income for Ukrainian households
- Annual remittance inflows were worth 8.2% of GDP in 2015-2019 average
- Due to border closures and containment measures abroad, massive numbers of Ukrainian labour migrants returned to Ukraine in March
- Hence, large reduction of remittance income for Ukraine worth between 1.6% and 3% of GDP expected for 2020

5. Total economic effect



Source: IER forecast 2020 (Dec.2019), own calculations

- Effects from domestic shock and external shock are incorporated into the macro-economic model in order to forecast GDP for 2020
- Non-Covid-19 related: weather forecasts indicate lower 2020 harvest
- We forecast a real GDP decline between -5.9% and -11.2% in 2020
- Baseline estimate: -7.0% GDP decline

5. Total economic effect

Real GDP forecast: demand side (% , yoy)

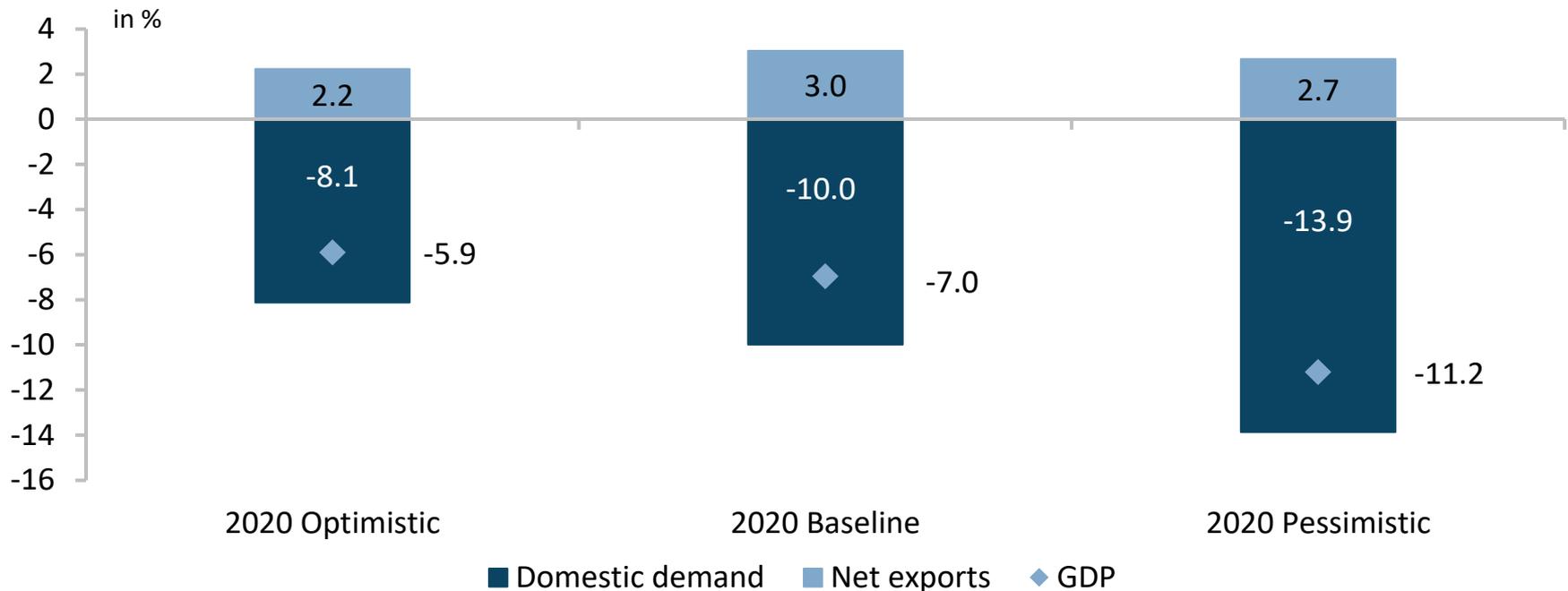
	2020 optimistic	2020 baseline	2020 pessimistic
GDP	-5.9	-7.0	-11.2
<i>including</i>			
Private consumption	-4.4	-5.7	-10.0
Government consumption	0.0	-0.7	-1.7
Fixed capital accumulation	-8.3	-11.2	-16.3
Exports	-5.4	-7.6	-10.7
Imports	-9.1	-12.7	-14.5

Source: own calculations

- Main factors for downturn: Private consumption and investments, with the stronger decline in investments
- Government consumption estimates are based on current budget
- Stronger decrease in imports than exports due to combination of income and supply shocks
 - Income: Domestic measures, lower exports and remittances
 - Supply: Closure of international tourism (net services import)

5. Total economic effect

Composition of GDP growth



Source: own calculations

- GDP decline mainly driven by contraction of domestic demand
- Net exports deliver positive impulse as imports shrink faster than exports, some import substitution is expected

5. Total economic effect

Real GDP forecast: supply side (% , yoy)

	2020 optimistic	2020 baseline	2020 pessimistic
GDP	-5.9	-7.0	-11.2
<i>including</i>			
Agriculture	-7.8	-8.9	-12.9
Industry	-3.3	-5.0	-8.1
Trade, repair services	-6.4	-8.0	-13.1
Transport	-11.2	-14.3	-24.1

Source: own calculations

- Large drop in agriculture is driven by a double shock: the negative economic effects related to Covid-19 and the worsened harvest forecast due to unusually dry weather
- Impact of Covid-19 on industry will be mainly through demand shock resulting production decline is expected to be moderate
- Containment measures have a negative impact primarily on services

5. Total economic effect

Current account balance

		2020 optimistic	2020 baseline	2020 pessimistic
Current account balance	USD bn	-0.9	-0.5	2.6
Current account balance	% of GDP	-0.6	-0.3	2.1
Exports of goods	USD bn	44.6	43.4	42.2
Imports of goods	USD bn	-54.2	-51.4	-46.1
Balance of services	USD bn	2.7	2.9	3.2
Remittances (net)	USD bn	9.6	8.7	7.7

Source: own calculations

- Improvement of current account balance to -0.3% of GDP expected in baseline scenario, positive balance in pessimistic scenario
- Reason: crisis has more negative effect on imports than exports, hence deeper overall crisis improves the current account balance
- Increased surplus in services trade (especially due to halted international passenger transportation and tourism) is the key factor for this

6. Conclusions

- The Covid-19 pandemic will lead to a severe economic downturn in Ukraine, with a real GDP decline of 7.0% expected in 2020 under the baseline
- Given that GDP forecasts before the crisis were at around +3%, this implies a massive shock, which is more severe than during the last crisis of 2014/2015
- The total impact is a combination of domestic lockdown measures, which were absolutely necessary to avoid a public health crisis, amplified by external shocks resulting from sharp declines in exports, certain commodity prices and remittances
- Due to the high level of uncertainty, we also modelled an optimistic (GDP: -5.9%) and a pessimistic scenario (GDP: -11.2%)
- The ultimate speed of recovery will depend on:
 - length and depth of domestic lockdown measures,
 - the external environment,
 - fiscal and monetary policy support,
 - possible future changes to consumer and investor behaviour

The German Economic Team (GET) advises the governments of Ukraine, Belarus, Moldova, Georgia and Uzbekistan regarding the design of economic policy reform processes and a sustainable development of the economic framework. As part of the project we also work in other countries on selected topics.

In a continuous dialogue with high-level decision makers of the project countries, we identify current problems in economic policy and then provide concrete policy recommendations based on independent analysis.

In addition, GET supports German institutions in the political, administrative and business sectors with its know-how and detailed knowledge of the region's economies.

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Annex: Exact scenario assumptions on domestic measures

Assumption on duration of full/partial shutdown of domestic sectors

	Optimistic		Baseline		Pessimistic	
	Full	Partial	Full	Partial	Full	Partial
Retail (excl. food, internet)	11.05.2020	21.06.2020	11.05.2020	12.07.2020	07.06.2020	30.08.2020
Accommodation	24.05.2020	07.06.2020	31.05.2020	21.06.2020	05.07.2020	02.08.2020
Gastronomy	n/a	21.06.2020	n/a	12.07.2020	n/a	30.08.2020
Int. passenger transport	21.06.2020	19.07.2020	12.07.2020	16.08.2020	30.08.2020	11.10.2020
Domestic passenger transport	07.06.2020	21.06.2020	21.06.2020	12.07.2020	03.08.2020	30.08.2020
Arts, entertainment and recreation (sports)	24.05.2020	21.06.2020	31.05.2020	12.07.2020	05.07.2020	02.08.2020
Other individual services	11.05.2020	24.05.2020	11.05.2020	31.05.2020	07.06.2020	05.07.2020

- “Full”: full shutdown, zero activity (output/GVA) of respective sector
- “Partial”: partial shutdown, sector operating at half the usual activity

Annex: Technical note on modelling

- Three forecast scenarios were produced using the IER's short-term macroeconomic forecasting model. The model is based on iterative-analytical techniques, grounded in the system of national accounts
- The model looks at GDP and GDP components based on production and expenditures. The final result of the GDP forecast is based on forecasts for each component.
- The forecasts for each component are produced using scenario assumptions and historical relationships. The forecast is built on a system of built-in proportions, which are expected to stay fairly constant
- Components of the GDP by production and by expenditures are interconnected. We also used a Leontieff-model based on the most recent input-output tables to project the impact of demand shocks on supply.
- The real GDP growth is the result of the contributions of each component. If the two sides of the GDP accounting equation are not balanced, then another iteration process begins. The iterations continue until the two methods of GDP produce balanced results.